

REMARKS

Summary of Office Action

Claims 1-35 were pending in the above-identified application. Claims 1-26 have been allowed. Claims 27-35 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Kwak et al., A Low Cost High Performance Register-Controlled Digital DLL for 1Gbps x32 DDR SDRAM, The 8th Korean Conference on Semiconductors, February 2001 (hereinafter "Kwak").

The specification have been objected to because of informalities.

Summary of Applicant's Reply

Applicant has corrected informalities in the specification.

Applicant has amended independent claims 27 and 35 to more particularly define the claimed invention. Applicant has cancelled claim 33.

No new matter has been added and the amendments are fully supported by the originally-filed specification.

Reconsideration of this application in light of the following remarks is hereby respectfully requested.

The Specification

The specification have been objected to because of informalities. More particularly, the Examiner has indicated

the following informalities: (1) on page 1, line 22 of the specification (paragraph 3), the comma should be deleted; (2) on page 6, lines 5 and 10 of the specification (paragraph 19), "is" should be changed to "are;" and (3) on page 7, line 17 of the specification (paragraph 21), "other" should be changed to "another."

Applicant has amended the informalities in paragraphs 3 and 21.

Applicant respectfully traverses the objection to paragraph 19. Page 6, lines 5 and 10 of the specification both recite the following: "the number of select bits in select signal ... that is enabled" (emphasis added). Because the phrase "of select bits" is a prepositional phrase, the word "is" appropriately modifies the word "number" and not the prepositional phrase.

Accordingly, applicant respectfully requests that the objections to the specification be withdrawn.

#### The Claims

##### Claims 1-26

Applicant thanks the Examiner for indicating the allowance of claims 1-26.

##### Claim 34

Claim 34 has been rejected under 35 U.S.C. § 102(b) as being anticipated by Kwak. Claim 34 is a parallel means plus function claim to method claim 21. For at least the same

reason that claim 21 has been allowed by the Examiner, applicant respectfully submits that claim 34 is also in condition for allowance.

Claims 27-32 and 35

Claims 27-32 and 35 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Kwak. In particular, the Examiner cites to FIG. 2 of Kwak as showing all the features of applicant's claims 27-32 and 35. The Examiner's rejections are respectfully traversed.

Applicant has amended independent claims 27 and 35 to more clearly define the claimed invention. In particular, applicant has amended claims 27 and 35 to incorporate the feature of cancelled claim 33.

Applicant's independent claims 27 and 35 are directed to a method and apparatus for mixing a first input signal having a first phase with a second input signal having a second phase. A first select signal and a second select signal are received at respective transistors. The impedance of each respective transistor is reduced by driving each respective transistor with a voltage higher than a voltage used to drive the first and second input signals. Signals having a phase relationship to each of the input signals based on a respective select signal is generated and combined to produce an output signal having a phase between the phases of the first and second input signals.

Applicant respectfully submits that Kwak does not show or suggest reducing the impedance of each respective transistor "by driving said respective transistors with a voltage higher than a voltage used to drive said first input signal and said second input signal" as recited in applicant's independent claims 27 and 35. The Examiner states that in Kwak, "the reducing impedance step occurs when these FETs are turned on by the select signals..." (Office Action, p. 2, ¶ 2). Unlike applicant's approach of claims 27 and 35, Kwak does not show or suggest reducing the impedance of the transistors by using more than one voltage source.

For at least the foregoing reason, independent claims 27 and 35 are in condition for allowance. Claims 28-32, which depend from independent claim 27, are therefore also in condition for allowance.

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Conclusion

Applicant respectfully submits that this application is now in condition for allowance. Accordingly, prompt consideration and allowance of this application are respectfully requested.

Respectfully submitted,

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